



## An Overview of CAS and ABS' CAP

### MARPOL's Condition Assessment Scheme (CAS)

CAS is a mandatory statutory survey scheme that Category 2 and Category 3 (non-double hull) oil tankers must satisfactorily complete (with no outstanding recommendations) by 15 years of age or by the first intermediate or renewal survey due after 5 April 2005, whichever ever occurs later, in order to trade to their respective phase out date as per MARPOL 13G, which was accelerated by resolution MEPC.111(50) which enters into force on 5 April 2005.

CAS is required to be conducted in conjunction with, the mandatory Enhanced Survey Program (ESP) and builds upon ESP by requiring additional thickness measurements and close-up surveys. Relative to ESP, CAS is unique in two respects:

- CAS contains very specific responsibilities and deadlines for planning the survey, which must begin 8 months in advance of the survey's commencement; and
- The flag Administration must review/monitor the survey and reporting process and issue the five-year full term CAS Statement of Compliance).

### ABS' Condition Assessment Program (CAP)

CAP is a voluntary service offered by some IACS Members. There is no complete harmonization of the CAP programs offered by IACS Members.

Unlike CAS, ABS' CAP requires that a fatigue assessment be carried out.

### General Summary of Differences Between CAP and ABS' CAS

Based on the attached Table 1, the following additional provisions would need to be implemented in order for an ABS CAP survey to qualify for CAS certification:

- 1) An internal review of survey reports would need to be carried out by persons that were not directly involved in the CAP survey;
- 2) More extensive and "positive" reporting of conditions found would be required;
- 3) Planning would need to start 8 months in advance (see Table 2, attached) of the planned CAP survey and such planning would need to use the CAS model plan and questionnaire. This would require greater involvement of the owner and Administration;
- 4) A dry docking survey would be required;
- 5) Attendance by two *exclusive* surveyors would be required; and
- 6) Additional thickness measurements and close-up surveys may be necessary, depending on the oil tanker's age.

**Table 1**

**MARPOL's Condition Assessment Scheme (CAS) vs ABS' Condition Assessment Program (CAP)**

<b>CAS, as amended by MEPC.112(50)</b>	<b>CAP</b>
<b>Approval Criteria</b>	
<p>Equivalent to ESP requirements</p> <p>No recommendations/conditions can exist.</p> <p>Final Report shall be reviewed internally by ABS personnel not engaged in any way whatsoever with the CAS Survey or Planning Document</p> <p>Review of Final Report and issuance of CAS Certificate is by the Flag State</p>	<p>Five Grades are used to identify each item surveyed.</p> <p>Survey is not limited to hull structure and extends to machinery, equipment and cargo handling</p>
<b>Reporting</b>	
<p>Positive reporting required (if no defects are found, it shall be so stated).</p> <p>Itemized list of findings is to provide an auditable trail.</p> <p>Locations in each space where close-up surveys and gaugings were carried out must be identified.</p> <p>The location, description and extent of cracks, buckling, corrosion (grooving/pitting), coatings, anodes and indents must be reported.</p> <p>Location, method and extent of repairs and items to be kept under observation are to be identified.</p> <p>Sufficient photos to represent the general condition of each space must be taken to supplement the report.</p>	<p>Extent of reporting is generally in checksheet format and is not as extensive as CAS, except for the amount of photographs.</p>
<b>Time Schedule</b>	
<p>Must be aligned with Intermediate or Special Survey.</p>	<p>Can be carried out at any time.</p>
<b>Survey Planning</b>	
<p>A rigid planning schedule, starting 8 months prior to survey commencement, must be met.</p> <p>The owner must complete the Survey Planning Questionnaire concerning the history of tank cleaning, use of IGS, and cargo/ballast carried as well as reports of structural inspections, SMS audits carried out by the Company and RO and PSC records.</p> <p>Survey Plan, with minimum specific contents, must be agreed by owner and class</p>	<p>The owner, in cooperation with ABSG, is to work out a survey program in advance.</p> <p>Survey planning meeting is to be documented.</p>
<b>Conditions for Survey</b>	
<p>Must include dry dock survey</p> <p>Minimum safe access provisions, including means of communication and conditions for rafting are specified.</p> <p>Two qualified exclusive surveyors to carry out survey</p>	<p>Dry dock survey or under water inspection while afloat is acceptable.</p> <p>Minimum safe access provisions refer to TSCF Guide and are therefore consistent with CAS as are conditions for rafting.</p> <p>Two surveyors are required, but they need not be exclusive surveyors</p> <p>Prior to commencement of survey no repairs should have to be done to hull and machinery.</p>
<b>Internal Exam</b>	
<p>All cargo and ballast tanks</p>	<p>All cargo and ballast tanks</p>

<b>Thickness Measurements</b>	
<p>TM Firm must be approved by ABS. One exclusive surveyor is to attend to <u>control</u> the TM process.</p> <p>Under the EU proposal, Cat.2 and Cat.3 tankers will need to pass a CAS survey as early as 15 years of age and at every subsequent intermediate or renewal survey until phase out which ranges from 14 to 21 years. Although thickness measurements vary between SS 3 to SS 4 based on ESP, CAS will govern such that the following areas will need to be measured under ESP plus CAS.</p> <ul style="list-style-type: none"> <li>• 3 transverse sections within the cargo area;</li> <li>• Each bottom plate within the cargo area;</li> <li>• Internal structure of fore and aft peak tanks;</li> <li>• All members subject to <i>close-up</i> inspection.</li> <li>• Selected wind and water strakes outside cargo area and all wind and water strakes within cargo area.</li> <li>• All exposed main deck plates.</li> </ul> <p>ESP specifies at least two readings for each plate</p>	<p>TM Firm must be approved by ABS. One surveyor must <u>always</u> be in attendance.</p> <p>The extent of gauging is more extensive than CAS for tankers of 15 years of age or less, but is less extensive than CAS for tanker more than 15 years of age.</p> <p>CAS more extensively specifies the representative areas of a given structural member to be measured.</p> <p>UT readings are used for structural evaluation for the "As Gauged" condition.</p>
<b>Close-up Surveys</b>	
<p>Prescriptive minimum requirements of ESP, plus CAS:</p> <ul style="list-style-type: none"> <li>• All web frame rings in all ballast tanks;</li> <li>• All web frame rings in a cargo tank;</li> <li>• 30% of the web frames in remaining cargo tanks</li> <li>• All transverse bulkheads</li> <li>• 30% of the deck and bottom transverses in each center cargo tank</li> <li>• Additional areas based on knowledge of Critical Structural Areas (e.g., fatigue analysis) if available</li> </ul>	<p>The extent of close-up survey is not as clearly specified as it is in CAS, but allows exceptions where a full coating is found to be in "Good" condition.</p> <p>CAP may not be as extensive as CAS</p> <p>Fatigue analysis completed prior to survey commencement in order to have the Surveyors specifically examine and report on any areas that are found with a high fatigue sensitivity index rating.</p>

<b>Table 2 Schedule of Planning and Implementation Required under CAS</b>			
<u>Timing</u>	<u>Action Required for Completion of CAS Surveys</u>	<u>Action by</u>	<u>Recipient</u>
8 mo prior to <b>PC</b>	Notification of intent to seek CAS certification	Co	CS/A
7 mo prior to <b>PC</b>	Issue Questionnaire and changes to diminution limits	CS	Co
5 mo prior to <b>PC</b>	Response to Questionnaire	Co	CS
2 mo prior to <b>PC</b>	Develop Survey Plan / Convene Pre-Survey Meeting	Co/CS	A
<b>PC</b>	<b>Planned Commencement of Survey</b>		
IS/SS due prior to <b>CC</b>	Completion of Survey within 18/15 mo ESP window	CS/Co	-
2 months before <b>CC</b>	Issuance of Final CAS Report Interim CAS Statement of Compliance	CS	Co/A
Prior to <b>CC</b>	Review/Approve Final Report Issue 5-year Full Term Statement of Compliance	A	CS
<b>CC</b>	<b>CAS Compliance Date: 15 years of age or by the first intermediate or renewal survey due after 5 April 2005, which ever occurs later</b>		